ACC.12
61st Annual Scientific Session & Expo
ACC-i2 with TCT innovation in intervention

E2130
JACC March 27, 2012
Volume 59, Issue 13

Vascular Disease

NATIONAL INSTITUTE OF HEALTH STROKE SCALE (NIHSS) SHOULD BE THE OUTCOME MEASURE OF CHOICE WHEN UTILIZING THE CARE REGISTRY

ACC Oral Contributions
McCormick Place South, S504a
Sunday, March 25, 2012, 11:45 a.m.-Noon

Session Title: New Insights in Perpheral Vascular Disease and Year in Review
Abstract Category: 35. Peripheral Arterial/Carotid Disease/Aortic Disease
Presentation Number: 932-7

Authors: *John H. Lee, Kevin Kennedy, Christopher White, Ochsner Heart and Vascular Institute, New Orleans, LA, USA*

Background: Stroke is the 3rd largest cause of death in the US. Carotid artery stenting (CAS) is an advanced technology for stroke prevention. The NCDR- CARE national database tracks outcomes of both CAS and conventionally treated carotid endarterectomy patients. Two major methods of neurologic follow up are employed in the categorization of these patients: National Institute of Health Stroke Scale (NIHSS) and reported diagnosis (RD). How well these two outcome measures correlate with each other is unknown.

Methods: We analyzed 6023 CAS patients from 168 centers enrolled in the CARE Registry from Jan 2005 to Dec 2010. New strokes post procedure was defined as a NIHSS change of ≥ 2 from baseline or the RD of a new stroke. Both outcome measures were compared for each patient. Categorical variables were analyzed with $\chi 2$ while quantitative variables with the Student's t-test. Cohen's kappa coefficient was calculated to assess agreement between RD and NIHSS.

Results: Post-procedural new strokes were reported in 276 (5%) of 6023 patients by NIHSS or RD. Only 1.4% (n=87) patients were reported by both NIHSS and RD to have had a new stroke. However, a discordant outcome reported by NIHSS and RD was found in 3.1% (n=189) patients. Using NIHSS 64 patients had a new stroke with no RD stroke, while 125 patients had an RD new stroke with no NIHSS stroke (kappa coefficient = 0.46, only moderate agreement). There were no significant differences between the concordant reports of new strokes versus discordant reports of new strokes when it came to hospital region, teaching facility, number of beds, inclusion in clinical trials, hospital type, location. There were however, a significantly larger proportion of patients with RD only strokes with prior strokes (16% v 12.9%), transient ischemic attacks (TIA) (36% v 28.7%), symptomatic target lesions (43.3% v 34.5%) when compared to the RD and NIHSS negative patients (all $p<0.001$).

Conclusion: We would recommend that due to the standardized nature of the NIHSS, the ability to easily certify examiners on-line, it is the more reliable measure of new strokes, particularly since RD may be subject to misclassification of patients with prior stokes or TIAs.